ABSTRACT

Charles University
Faculty of Pharmacy in Hradec Králové
Department of Pharmaceutical Chemistry and Pharmaceutical Analysis

Candidate: Mgr. Marek Kolenič
Consultant: assoc. prof. PharmDr. Petr Zimčík, Ph.D.
Title of Thesis: Study of transalkylation of *tert*-butylsulfides

Novel, atypical and unexpected transalkylation reaction was discovered during the synthesis of highly substituted phthalocyanines. This thesis follows up with previous research and examines effect of peripheral substitution on the course of above-mentioned transalkylation reaction at *tert*-butysulfides.

For this purpose, total six derivatives with both electrondonating and electronaccepting groups, with pyrazine core and also without any substitution, were synthesised and used. Conversion ratio to corresponding aromatic methylsulfides after reaction with methyliodide was analyzed and evaluated by ^{1}H NMR spectroscopy (via aliphatic signals integration).

Compounds with electrodonating groups gave higher reaction rates, on the other hand electronaccepting groups made reaction slower, in extreme cases no product was even observed. One pyrazine derivative gave us new, unpublished molecule via direct *N*-alkylation of pyrazine instead of transalkylation reaction.